

**Directory of Collections  
of  
Micro - Organisms  
and  
List of Species  
Maintained in India**



**COUNCIL OF SCIENTIFIC & INDUSTRIAL RESEARCH  
NEW DELHI  
1953**





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## INTRODUCTION

The Biochemical Research Committee of the Council of Scientific and Industrial Research, New Delhi, at its meeting in January 1946 recommended the preparation of a consolidated list of type cultures available in India. In August 1947, the British Commonwealth Specialist Conference on Culture Collections of Micro-organisms recommended the publication of a directory of important culture collections in the Commonwealth to be followed by the preparation and distribution of catalogues for institutions maintaining important collections. In implementation of these recommendations Directories of Collections were issued by the U.K. and by New Zealand in 1951. For Canada a combined Directory and Catalogue has been published.

The present publication for India is prepared on the lines of the Directories of Collections and List of Species for the U.K. and New Zealand; the information contained in it was received in response to a questionnaire, the form of which was suggested by the Permanent Committee of the British Commonwealth Collections of Micro-organisms.

The publication consists of two parts. The first part is a directory of the various culture collections in India listed with Code Nos. 600-699 allotted to the Indian Collections by the Permanent Committee. The second part gives the lists of micro-organisms maintained in the above collections classified, in general, according to the system followed in previous lists of Commonwealth Collections. After an index of main types of organisms, classified broadly according to interest, the micro-organisms are listed by genera in alphabetical order. For bacteria the nomenclature of Bergey's Manual of Determinative Bacteriology (sixth edition) is used, synonyms in common use being given in brackets. Viruses are referred to only by common names. For yeasts the nomenclature of J. Lodder and N. W. J. Kreger—The yeasts, a Taxonomic Study—has been followed. The numerals after each species name are the code numbers of collections maintaining the organism.

It is intended that this Directory should be followed by catalogues, at least for the larger of the individual collections, giving fuller information on details of isolation and identification.

This Directory was prepared for the Council of Scientific and Industrial Research by the staff of the National Collection of Industrial Micro-organisms at the National Chemical Laboratory of India, Poona-8,





## NUMERICAL LIST OF COLLECTIONS

CODE No.	NAME OF COLLECTION	PAGE
600	Agricultural Research Institute, Coimbatore ..	5
601	Ajudhia Distillery, Raja-ka-Sahaspur ..	5
602	Albert David Ltd., Calcutta ..	5
603	Alembic Chemical Works Co., Ltd., Baroda ..	5
604	Andhra Medical College, Visakhapatnam ..	5
605	Armed Forces Medical College, Poona ..	6
606	Banaras Hindu University, Banaras ..	6
607	Behar Sugar Works Distillery, Behar ..	6
608	Bengal Chemical and Pharmaceutical Works Ltd., Calcutta .. ..	6
609	Birla College of Sciences, Pilani .. ..	6
610	B.J. Medical College, Ahmedabad .. ..	7
611	B. J. Medical College, Poona .. ..	7
612	Bombay Veterinary College, Bombay .. ..	7
613	Bose Institute, Darjeeling .. ..	7
614	Carmichael Medical College, Calcutta .. ..	7
615	Central Drug Research Institute, Lucknow .. ..	8
616	Central Food Technological Research Institute, Mysore	8
617	Central Inland Fisheries Research Station, Calcutta ..	8
618	Central Marine Fisheries Research Station, Mandapam .. ..	8
619	Central Potato Research Institute, Patna .. ..	8
620	Central Research Institute, Kasauli .. ..	9
621	Central Rice Research Institute, Cuttack .. ..	9
622	Chemo Pharma Laboratories Ltd., Bombay .. ..	9
623	Christian Medical College Hospital, Vellore .. ..	9
624	College of Agriculture, Poona .. ..	9
625	Delhi University, Delhi .. ..	10
626	Department of Chemical Technology, Bombay .. ..	10
627	Department of Nutrition, Bombay .. ..	10
627A	Food Technology Laboratory, Calcutta .. ..	10
628	Forest Research Institute, Dehra Dun .. ..	10
629	Fresh Water Biological Station, Madras .. ..	11
629A	Government Agricultural College, Ludhiana .. ..	11
630	Government Central Distillery, Nasik Road .. ..	11
631	Government Vaccine Institute, Bangalore .. ..	11
632	Haffkine Institute, Bombay .. ..	11
633	Indian Type Culture Collection of Fungi, New Delhi ..	12
634	Indian Dairy Research Institute, Bangalore .. ..	12
635	Indian Institute of Science, Bangalore .. ..	12



636	Indian Institute of Sugar Technology, Kanpur	..	12
637	Indian Jute Mills Association Research Institute, Calcutta	.. ..	13
638	Jeypore Sugar Co., Ltd., Rayagada	..	13
639	Jute Agricultural Research Institute, Barrackpore	..	13
640	King Institute of Preventive Medicine, Madras	..	13
640A	Kolhapur Sugar Mills Ltd., Kolhapur	..	14
641	Malaria Institute of India, Delhi	..	14
641A	M. G. M. Medical College, Indore	..	14
642	Microbiological Laboratory, Calcutta	..	14
643	Mysore Serum Institute, Bangalore	..	14
644	Mysore Sugar Co. Ltd., Distillery, Mandya	..	15
645	National Collection of Industrial Micro-organisms, Poona	.. ..	15
646	Nutrition Research Laboratories, Coonoor	..	15
647	Osmania University, Hyderabad	..	15
648	Osmania University, Hyderabad	..	16
649	Pasteur Institute of Southern India, Coonoor	..	16
650	Pasteur Institute of West Bengal, Calcutta	..	16
651	Plant Pathological Laboratory, Jorhat	..	16
652	Provincial Bacteriological Laboratory, Amritsar	..	16
653	Public Health Laboratory, Poona	..	17
654	Pure Products and Madhu Canning Ltd., Bombay	..	17
655	Raptokos Brett and Co., Ltd., Bombay	..	17
656	Saugar University, Saugar	..	17
657	S. C. B. Medical College, Cuttack	..	17
659	Seth G. S. Medical College, Bombay	..	18
660	Shamli Distillery and Chemical Works Laboratory, Shamli	.. ..	18
661	Sheila Dhar Institute of Soil Science, Allahabad	..	18
662	State Agricultural Institute, Calcutta	..	18
663	State Public Health Laboratory, Patna	..	18
664	Technical Development Establishment Laboratories, Kanpur	.. ..	19
665	Topiwala National Medical College, Bombay	..	19
666	University Biochemical Laboratory, Madras	..	19
667	University Botany Laboratory, Madras	..	19
668	University Department of Biochemistry, Nagpur	..	19
669	Vaccine Institute, Belgaum	..	20
670	Veterinary College, Hissar	..	20
671	Veterinary Research Institute of India, Mukteswar-Kumaun	.. ..	20
672	Veterinary Science and Animal Husbandry College, Mathura	.. ..	20
673	Walchandnagar Distillery, Bombay	..	20



## INDEX OF MAIN TYPES OF ORGANISMS

*The numbers opposite the several types of organisms indicate the code numbers of the collections maintaining them. For a numerical list of code numbers, see page 1.*

Algae, 617, 629, 647

Animal pathogens, 602, 604, 605,  
608, 609, 610, 611, 612, 615,  
618, 620, 623, 626, 631, 632,  
634, 635, 640, 641, 641A, 642,  
643, 649, 650, 652, 653, 657,  
659, 663, 665, 666, 669, 670,  
671, 672

Antibiotic production, 614, 633,  
635, 642, 645

Bacteria, 602, 603, 604, 605, 606,  
608, 609, 610, 611, 612, 613, 615,  
616, 618, 620, 622, 623, 624,  
626, 627, 627A, 629A, 631,  
632, 633, 634, 635, 636, 637,  
639, 640, 641A, 642, 643, 645,  
646, 649, 651, 652, 653, 654,  
655, 657, 659, 662, 663, 664,  
665, 666, 668, 670, 671, 672

Dairy and food, 616, 626, 627A,  
634, 635, 636, 654

Fungi, 600, 602, 603, 606, 609, 614,  
616, 619, 621, 622, 624, 625,  
626, 627A, 628, 633, 634, 635,  
636, 637, 639, 642, 645, 646,  
648, 651, 655, 656, 662, 664,  
666, 667, 668

Industrial fermentation, 601, 602,  
603, 607, 614, 616, 622, 626,  
630, 633, 634, 635, 636, 638,  
642, 644, 645, 646, 654, 660,  
661, 666, 670

Microbiological chemistry, 602,  
603, 609, 614, 615, 616, 620,  
622, 626, 627, 634, 635, 636,  
642, 645, 646, 653, 655, 666

Plant pathogens, 600, 613, 614,  
619, 621, 624, 625, 628, 637,  
639, 642, 648, 651, 656, 662,  
664, 667

Protozoa, 617, 641, 647, 659, 671

Viruses, 605, 613, 615, 620, 629,  
631, 643, 649, 650, 669, 671

Yeasts, 600, 601, 606, 607, 616,  
622, 626, 627A, 630, 633, 634,  
635, 636, 638, 640A, 642, 644,  
645, 654, 655, 660, 661, 662,  
668, 673





## LIST OF COLLECTIONS

CODE  
No.

600 AGRICULTURAL RESEARCH INSTITUTE, Mycology Laboratory, Lawley Road P.O., Coimbatore (Madras State).

*Microbiologist :* T. S. Ramakrishnan  
*Interests :* agricultural and research  
*Organisms :* fungi, and yeasts; 150  
*Maintenance :* in lifeless media  
*Distribution :* on request (for a fee) or in exchange

601 AJUDHIA DISTILLERY, Raha-ke-Sahaspur, Moradabad Distt. (U.P.).

*Works Manager :* N. K. Bali  
*Interest :* industrial  
*Organisms :* yeasts  
*Maintenance :* in lifeless media

602 ALBERT DAVID LTD., 5/11, D. Gupta Lane, Calcutta-2.

*Director :* Dr. S. L. Mukherjee  
*Interests :* industrial, medical, research  
*Organisms :* bacteria and fungi; 8  
*Maintenance :* in lifeless media  
*Distribution :* personal favour

603 ALEMBIC CHEMICAL WORKS CO., LTD., Microbiological Laboratory, Baroda-3.

*Interests :* industrial, medical, research  
*Organisms :* bacteria and fungi; 3  
*Maintenance :* in lifeless media

604 ANDHRA MEDICAL COLLEGE, Visakhapatnam (Madras State).

*Professor in charge :* Dr. P. N. Rao  
*Interests :* medical and research  
*Organisms :* bacteria  
*Maintenance :* in lifeless media, eggs, animals and frozen state

605 ARMED FORCES MEDICAL COLLEGE, Pathology Dept.,  
Poona-1.

<i>Commandant :</i>	Brigadier A. K. Gupta
<i>Interests :</i>	medical and research
<i>Organisms :</i>	bacteria, 169; animal viruses, 5
<i>Maintenance :</i>	in lifeless media, tissue cultures, embryonated eggs, and animals
<i>Distribution :</i>	on request (for a fee)

606 BANARAS HINDU UNIVERSITY, Department of Pharma-  
ceutics, Banaras.

<i>Professor in charge :</i>	Dr. N. C. Neogi
<i>Interests :</i>	industrial, medical, research
<i>Organisms :</i>	bacteria, fungi, yeasts
<i>Maintenance :</i>	in lifeless media

607 BEHAR SUGAR WORKS DISTILLERY, Pachrukhi, Saran  
Distt. (Bihar).

<i>Microbiologist :</i>	E. N. Parthasarathy
<i>Interest :</i>	industrial
<i>Organisms :</i>	yeast; 1
<i>Maintenance :</i>	in lifeless media
<i>Distribution :</i>	on request

608 BENGAL CHEMICAL AND PHARMACEUTICAL WORKS  
LTD., Biology Department, Calcutta-11.

<i>Microbiologist :</i>	Dr. S. N. Ghosh
<i>Interests :</i>	industrial, medical, research
<i>Organisms :</i>	bacteria and bacteriophages; 96
<i>Maintenance :</i>	in lifeless media
<i>Distribution :</i>	on request (for a fee) or in exchange

609 BIRLA COLLEGE OF SCIENCES, Division of Pharmacy,  
Pilani (Rajasthan).

<i>Microbiologist :</i>	K. Lakshminarayanan
<i>Interests :</i>	industrial, medical, research
<i>Organisms :</i>	bacteria, 7; fungi, 5
<i>Maintenance :</i>	in lifeless media
<i>Distribution :</i>	on request



610 B. J. MEDICAL COLLEGE, Pathology Department, Ahmedabad (Bombay State).

*Professor of Pathology :* Dr. Y. M. Bhenda

*Interest :* medical

*Organisms :* bacteria; 22

*Maintenance :* in lifeless media

*Distribution :* on request

611 B. J. MEDICAL COLLEGE, Department of Pathology and Bacteriology, Poona-1.

*Professor in charge :* Dr. P. G. Gollerkeri

*Interests :* medical and teaching

*Organisms :* bacteria; 30

*Maintenance :* in lifeless media

*Distribution :* on request

612 BOMBAY VETERINARY COLLEGE, Bacteriological Laboratory, Parel, Bombay.

*Officer in charge :* Professor of Bacteriology

*Interest :* veterinary

*Organisms :* bacteria; 37

*Maintenance :* in lifeless media

*Distribution :* on request

613 BOSE INSTITUTE, Mayapuri Research Station, Acharya Jagadish Chandra Road, Darjeeling (West Bengal).

*Microbiologist :* Dr. A. Ganguly

*Interest :* agricultural

*Organisms :* plant viruses, 5; bacteria, 9

*Maintenance :* bacteria in lifeless media and  
viruses in living plants

*Distribution :* on request

614 CARMICHAEL MEDICAL COLLEGE, Botanical Laboratory, Calcutta.

*Director :* Dr. S. R. Bose

*Interests :* industrial, medical, research

*Organisms :* fungi; 100

*Maintenance :* in paraffin oil, and at 4°C. in  
Mckarty's screw capped phials

*Distribution :* on request and personal favour

615 CENTRAL DRUG RESEARCH INSTITUTE, Chattar Manzil Palace (Council of Scientific and Industrial Research), Lucknow (U.P.).

*Director :* Dr. B. Mukerji  
*Interests :* industrial, medical, research  
*Organisms :* bacteria, 88; animal viruses, 6  
*Maintenance :* in lifeless media, tissue cultures, embryonated eggs, in animals and in the frozen state  
*Distribution :* on request

616 CENTRAL FOOD TECHNOLOGICAL RESEARCH INSTITUTE, Microbiology and Sanitation Division (Council of Scientific and Industrial Research), Mysore.

*Director :* Dr. V. Subrahmanyan  
*Microbiologist :* Dyal Singh Johar  
*Interests :* agricultural, industrial, medical, research  
*Organisms :* bacteria, 20; fungi, 11; yeasts, 36  
*Maintenance :* in lifeless media  
*Distribution :* on request (for a fee)

617 CENTRAL INLAND FISHERIES RESEARCH STATION, Barrackpore P.O., Calcutta.

*Chief Research Officer :* Dr. H. Srinivasa Rao  
*Interest :* research  
*Organisms :* algae and protozoa  
*Distribution :* on request

618 CENTRAL MARINE FISHERIES RESEARCH STATION, Mandapam Camp P.O. (S. India).

*Chief Research Officer :* Dr. N. K. Panikkar  
*Bacteriologist :* N. K. Velankar  
*Interests :* industrial and research (fish preservation)  
*Organisms :* bacteria; 50  
*Maintenance :* in lifeless media

619 CENTRAL POTATO RESEARCH INSTITUTE, Patna (Bihar).

*Director :* Dr. S. Ramanujam  
*Microbiologist :* Dr. M. J. Thirumalachar  
*Interests :* agricultural and research  
*Organisms :* fungi, 15; potato pathogens  
*Maintenance :* in lifeless media  
*Distribution :* on request



- 620 CENTRAL RESEARCH INSTITUTE, Kasauli, Punjab (I).  
*Director :* Lt. Colonel M. L. Ahuja  
*Interests :* medical and research  
*Organisms :* bacteria and animal viruses; 300  
*Maintenance :* in nutrient media, in animals, embryonated eggs, frozen and lyophilized (Edwards' method)  
*Distribution :* without fee to international bodies or laboratories; others on request (for a fee)

This Institute serves as the Government of India's National Collection of Type Cultures of organisms of medical and public health interest.

- 621 CENTRAL RICE RESEARCH INSTITUTE, Cuttack-4 (Orissa).  
*Director :* Dr. N. Parthasarathy  
*Interests :* agricultural and research  
*Organisms :* fungi (pathogenic on rice), 65  
*Maintenance :* in lifeless media  
*Distribution :* on request

- 622 CHEMO PHARMA LABORATORIES LTD., King's Lodge, Byculla, Bombay.  
*Microbiologist :* F. X. Lobo  
*Interests :* industrial and research  
*Organisms :* bacteria, 8; fungi, 19; yeasts, 3  
*Maintenance :* in oil, soil and refrigerated stocks (5-15°C.)  
*Distribution :* on request

- 623 CHRISTIAN MEDICAL COLLEGE HOSPITAL, Bacteriological Laboratory, Vellore, North Arcot Distt. (Madras State).  
*Microbiologist :* Dr. (Miss) Ruth M. Myres  
*Interest :* medical  
*Organisms :* bacteria; 20  
*Maintenance :* in lifeless media  
*Distribution :* on request (for a fee)

- 624 COLLEGE OF AGRICULTURE, Plant Pathology Section, Poona-5.  
*Plant Pathologist :* Dr. M. K. Patel  
*Interest :* agricultural  
*Organisms :* bacteria and fungi; 100  
*Maintenance :* in lifeless media  
*Distribution :* on request or in exchange

- 625 DELHI UNIVERSITY, Department of Botany, Delhi-8.  
*Microbiologist :* S. D. Sanwal  
*Interest :* research  
*Organisms :* fungi; 74  
*Maintenance :* in lifeless media  
*Distribution :* on request
- 626 DEPARTMENT OF CHEMICAL TECHNOLOGY, Food Technology Section, University of Bombay, Matunga, Bombay-19.  
*Microbiologist :* Dr. A. Sreenivasan  
*Interest :* research  
*Organisms :* bacteria, 11; fungi, 17; yeasts, 2  
*Maintenance :* in lifeless media  
*Distribution :* on request (for a fee)
- 627 DEPARTMENT OF NUTRITION, c/o. Haffkine Institute, Parel, Bombay-12.  
*Director :* Dr. M. V. Radhakrishna Rao  
*Interest :* research  
*Organisms :* bacteria; 15  
*Maintenance :* dried-lyophilization
- 627A FOOD TECHNOLOGY LABORATORY, College of Engineering and Technology, Calcutta-32.  
*Director :* Dr. A. N. Bose  
*Interests :* agricultural, medical, research  
*Organisms :* bacteria, fungi, yeasts; 30  
*Maintenance :* in lifeless media  
*Distribution :* on request
- 628 FOREST RESEARCH INSTITUTE, Mycology Branch, New Forest, Dehra Dun (U.P.).  
*Head of the Division of Mycology :* Dr. K. Bagchee  
*Interests :* research, agricultural, industrial, medical  
*Organisms :* fungi; 284  
*Maintenance :* on neutral malt agar, paraffin oil, in living plants as well as in the frozen state  
*Distribution :* on request (for a fee)  
 The collection of fungi is representative of all the parts and climes of India.



629 FRESH WATER BIOLOGICAL STATION, 951, Poonamallee  
High Road, Kilpauk, Madras-10.

*Asst. Director :* P. I. Chacko  
*Interest :* development of inland fisheries  
*Organisms :* algae; 10  
*Maintenance :* in lifeless media

629A GOVERNMENT AGRICULTURAL COLLEGE, Bacteriological  
Laboratory, Ludhiana, Punjab (I).

*Microbiologist :* Dr. M. R. Madhok  
*Interest :* agricultural  
*Organisms :* bacteria  
*Maintenance :* in lifeless media  
*Distribution :* on request (for a fee)

630 GOVERNMENT CENTRAL DISTILLERY, Nasik Road  
(Bombay State).

*Officer in charge :* The Superintendent  
*Interest :* industrial  
*Organisms :* yeasts; 1  
*Maintenance :* mohua juice media  
*Distribution :* on request (for a fee)

631 GOVERNMENT VACCINE INSTITUTE, Lalbagh Road,  
Bangalore-2 (Mysore State).

*Superintendent :* Dr. V. N. Krishnamurthy  
*Interests :* medical and research  
*Organisms :* animal viruses  
*Maintenance :* in tissue cultures, embryonated  
eggs, in animals and in the  
frozen state  
*Distribution :* on request

632 HAFFKINE INSTITUTE, Parel, Bombay-12.

*Director :* Dr. P. M. Wagle  
*Interests :* medical and research  
*Organisms :* bacteria and animal viruses; 69  
*Maintenance :* freeze dried, embryonated eggs and  
in animals  
*Distribution :* bacteria on request (for a fee);  
virus strains are not issued.

- 633 INDIAN TYPE CULTURE COLLECTION OF FUNGI, Division of Mycology and Plant Pathology, Indian Agricultural Research Institute, New Delhi-12.

*Head of the Division of  
Mycology and Plant*

<i>Pathology :</i>	Dr. R. S. Vasudeva
<i>Interests :</i>	agricultural, research and teaching
<i>Organisms :</i>	bacteria, fungi and yeasts; 850
<i>Maintenance :</i>	in lifeless media
<i>Distribution :</i>	on request (for a fee) or in exchange

The collection is a member of the International Federation of Culture Collections.

- 634 INDIAN DAIRY RESEARCH INSTITUTE, Dairy Bacteriology Section, Hosur Road, Bangalore-1 (Mysore State).

<i>Director :</i>	Dr. K. C. Sen
<i>Dairy Bacteriologist :</i>	Dr. K. K. Iya
<i>Interests :</i>	agricultural, veterinary, research
<i>Organisms :</i>	bacteria, fungi, and yeasts; 230
<i>Maintenance :</i>	in lifeless media
<i>Distribution :</i>	on request to scientists and for a fee to others

- 635 INDIAN INSTITUTE OF SCIENCE, Department of Biochemistry, Bangalore-3 (Mysore State).

<i>In charge of yeasts :</i>	Dr. M. K. Subramanian
<i>In charge of fungi :</i>	Dr. P. L. Narasimha Rao
<i>In charge of bacteria :</i>	T. K. Wadhvani
<i>Interest :</i>	research
<i>Organisms :</i>	yeasts, 60; bacteria, 50; fungi and protozoa, 22
<i>Maintenance :</i>	in lifeless media
<i>Distribution :</i>	on request

- 636 INDIAN INSTITUTE OF SUGAR TECHNOLOGY, Kanpur (U.P.).

<i>Director :</i>	Dr. J. M. Saha
<i>Microbiologist :</i>	J. P. Shukla
<i>Interests :</i>	industrial and research
<i>Organisms :</i>	bacteria, 3; fungi, 7; yeasts, 8
<i>Maintenance :</i>	on agar slants
<i>Distribution :</i>	on request (for a fee)



637 INDIAN JUTE MILLS ASSOCIATION RESEARCH INSTITUTE, 3, Taratola Road, Calcutta-27.

*Director :* Dr. W. G. Macmillan  
*Microbiologist :* Dr. S. N. Basu  
*Interests :* industrial and research  
*Organisms :* fungi; 100  
*Maintenance :* in lifeless media  
*Distribution :* on request

Cultures mostly isolated by the Institute, a few obtained from foreign collections.

638 JEYPORE SUGAR CO. LTD., Rayagada, Koraput Distt. (Orissa).

*Distillery Chief*  
*Chemist :* G. Ramachandar  
*Interest :* industrial  
*Organisms :* yeasts; 12  
*Maintenance :* in the frozen state  
*Distribution :* on request

639 JUTE AGRICULTURAL RESEARCH INSTITUTE, Barrackpore (West Bengal).

*Director :* Dr. B. C. Kundu  
*Interest :* agricultural  
*Organisms :* bacteria and fungi  
*Maintenance :* synthetic media; dried specimens  
on killed host tissues  
*Distribution :* on request

640 KING INSTITUTE OF PREVENTIVE MEDICINE, Guindy, Madras-15.

*Director :* Dr. Y. S. Narayana Rao  
*Interests :* medical, research, veterinary  
*Organisms :* bacteria and bacteriophages; 468  
*Maintenance :* in lifeless media, animals and also  
in the lyophilized state  
*Distribution :* on request (for a fee)

High titre sera for various pathogenic organisms are prepared.

640A KOLHAPUR SUGAR MILLS LTD., Kasaba Bavada, P.O., New Palace, Kolhapur (Bombay State).

*Interest :* industrial  
*Organisms :* yeasts  
*Maintenance :* in lifeless media

641 MALARIA INSTITUTE OF INDIA, 22, Alipore Road, Delhi-8.

*Director :* Lt. Col. Jaswant Singh  
*Interests :* medical, research, veterinary  
*Organisms :* protozoa; 5  
*Maintenance :* in embryonated eggs  
*Distribution :* on request

641A M. G. M. MEDICAL COLLEGE, Department of Pathology and Bacteriology, Indore (M.B.).

*Professor in charge :* Dr. C. Mohan Rangam  
*Interests :* medical and research  
*Organisms :* bacteria  
*Maintenance :* in lifeless media  
*Distribution :* personal favour

642 MICROBIOLOGICAL LABORATORY, Bose Institute, Calcutta-9.

*Microbiologist :* Dr. P. N. Nandi  
*Interests :* medical and research  
*Organisms :* bacteria, fungi and yeasts; 650  
*Maintenance :* in lifeless media  
*Distribution :* on request and personal favour

643 MYSORE SERUM INSTITUTE, Hebbal, Bangalore (Mysore State).

*Superintendent :* V. S. Kuppuswamy Mudaliar  
*Interests :* veterinary, research, agriculture  
*Organisms :* bacteria and animal viruses  
*Maintenance :* in lifeless media, animals and embryonated eggs  
*Distribution :* on request or in exchange

This is a specialized laboratory for work on animal bacteriology, pathology, parasitology and serology. Any other institution in India may seek help from the research sections of this Institute.

644 MYSORE SUGAR CO. LTD., DISTILLERY, Mandya (Mysore State).

<i>Microbiologist :</i>	G. Narashima Iyengar
<i>Interest :</i>	industrial
<i>Organisms :</i>	yeasts; 50
<i>Maintenance :</i>	lifeless media
<i>Distribution :</i>	on request

The type of yeast is one of high alcohol tolerance, producing up to 12 per cent alcohol by volume and is a hybrid evolved in this Distillery under the name of GN/1942-C.

645 NATIONAL COLLECTION OF INDUSTRIAL MICRO-ORGANISMS, National Chemical Laboratory (Council of Scientific and Industrial Research), Poona-8.

<i>Director :</i>	Professor G. I. Finch, F.R.S.
<i>In charge of collection :</i>	Dr. M. Damodaran, Head of the Division of Biochemistry
<i>Microbiologist :</i>	T. N. Ramachandra Rao
<i>Interests :</i>	industrial and research
<i>Organisms :</i>	bacteria, yeasts, and fungi; 750
<i>Maintenance :</i>	in lifeless media and soil
<i>Distribution :</i>	on request

646 NUTRITION RESEARCH LABORATORIES, Indian Council of Medical Research, Coonoor (S. India).

<i>Director :</i>	Dr. V. N. Patwardhan
<i>Microbiologist :</i>	Dr. P. K. Vijayaraghavan
<i>Interest :</i>	research
<i>Organisms :</i>	bacteria, 10; fungi, 4
<i>Maintenance :</i>	in lifeless media
<i>Distribution :</i>	on request

The micro-organisms are maintained for the micro-biological assays of various nutrients.

647 OSMANIA UNIVERSITY, Hydrobiological Section, Department of Botany, Hyderabad (Deccan).

<i>Microbiologist :</i>	Dr. M. R. Suxena
<i>Interest :</i>	research
<i>Organisms :</i>	algae and protozoa; 25
<i>Maintenance :</i>	in aqueous media and agar media



- 648 OSMANIA UNIVERSITY, Plant Pathology Section, Department of Botany, Hyderabad-5 (Deccan).  
*Microbiologist :* Dr. M. Abdus Salam  
*Interest :* research  
*Organisms :* fungi; 19  
*Maintenance :* in lifeless media
- 649 PASTEUR INSTITUTE OF SOUTHERN INDIA, Coonoor (S. India).  
*Director :* Dr. N. Veeraraghavan  
*Interests :* medical and research  
*Organisms :* bacteria and animal viruses  
*Maintenance :* in lifeless media, in tissue cultures, embryonated eggs, and in animals; viruses are lyophilized in Edwards' centrifugal freeze drier  
*Distribution :* on request
- 650 PASTEUR INSTITUTE OF WEST BENGAL, School of Tropical Medicine Building, Calcutta-12.  
*Superintendent :* Dr. J. Banerjee  
*Interests :* medical and veterinary  
*Organisms :* animal viruses (Rabis)  
*Maintenance :* in animals  
*Distribution :* on request (for Institutes preparing anti-rabis vaccine)
- 651 PLANT PATHOLOGICAL LABORATORY, Jorhat (Assam).  
*Microbiologist :* S. Chowdhury  
*Interest :* agricultural  
*Organisms :* bacteria, fungi  
*Maintenance :* in lifeless media  
*Distribution :* on request (for a fee)
- 652 PROVINCIAL BACTERIOLOGICAL LABORATORY, Department of Pathology, Medical College, Amritsar, Punjab (I).  
*Microbiologist :* Dr. Manmohan Singh  
*Interests :* medical, research, teaching  
*Organisms :* bacteria; 40  
*Maintenance :* in lifeless media  
*Distribution :* on request (for a fee)

- 653 PUBLIC HEALTH LABORATORY, Government of Bombay,  
Stenely Road, Poona-1.  
*Asst. Director :* Dr. S. T. Rodda  
*Interests :* medical and research  
*Organisms :* bacteria; 6  
*Maintenance :* in lifeless media  
*Distribution :* on request
- 654 PURE PRODUCTS AND MADHU CANNING LTD., Research  
and Control Laboratory, Worli, Bombay-18.  
*Chief Technologist :* Dr. H. A. B. Parpia  
*Interests :* agricultural, industrial, research  
*Organisms :* bacteria, 1; yeast, 1  
*Maintenance :* in lifeless media  
*Distribution :* on request
- 655 RAP TAKOS, BRETT AND CO. LTD., Research and Control  
Division, Worli, Bombay-18.  
*Head of the Division :* Dr. G. B. Ramasarma  
*Interests :* industrial and research  
*Organisms :* bacteria, 11; fungi, 4; yeasts, 2  
*Maintenance :* in lifeless media  
*Distribution :* personal favour
- 656 SAUGAR UNIVERSITY, Mycological Section of the Department  
of Botany, Saugar (M.P.).  
*Microbiologist :* S. B. Saksena  
*Interests :* teaching and research on soil and  
aquatic fungi  
*Organisms :* fungi; 75  
*Maintenance :* agar media and hemp seeds for  
aquatic fungi  
*Distribution :* personal favour or in exchange
- 657 S. C. B. MEDICAL COLLEGE, Department of Pathology,  
Cuttack (Orissa).  
*Professor in charge :* Dr. J. C. Dutta  
*Interest :* medical  
*Organisms :* bacteria; 20  
*Maintenance :* in lifeless media  
*Distribution :* on request

- 659 SETH G. S. MEDICAL COLLEGE, Pathology and Bacteriology Department, Parel, Bombay-12.  
*Officer in charge :* Professor of Pathology and Bacteriology  
*Interests :* medical and research  
*Organisms :* bacteria, bacteriophages and protozoa; 55  
*Maintenance :* in lifeless media, in animals and in frozen state  
*Distribution :* on request
- 660 SHAMLI DISTILLERY AND CHEMICAL WORKS LABORATORY, Shamli, S.S.Rly.  
*Microbiologist :* M. C. Chattarpati  
*Interest :* industrial  
*Organisms :* yeast; 1  
*Maintenance :* in lifeless media  
*Distribution :* on request
- 661 SHEILA DHAR INSTITUTE OF SOIL SCIENCE, University of Allahabad, Beli Road, Allahabad (U.P.).  
*Director :* Dr. N. R. Dhar  
*Interests :* agricultural, industrial, research  
*Organisms :* yeasts; 100  
*Maintenance :* in lifeless media  
*Distribution :* personal favour
- 662 STATE AGRICULTURAL INSTITUTE, Mycological Laboratory, Tollygunge, Calcutta-33.  
*Microbiologist :* Dr. S. B. Chattopadhyay  
*Interests :* agricultural and research  
*Organisms :* bacteria, fungi, and yeasts; 36  
*Maintenance :* in lifeless media  
*Distribution :* on request
- 663 STATE PUBLIC HEALTH LABORATORY, Patna-4 (Bihar).  
*Officer in charge :* Dr. L. R. Shah Deo  
*Interest :* medical  
*Organisms :* bacteria  
*Maintenance :* in lifeless media  
*Distribution :* on request



664 TECHNICAL DEVELOPMENT ESTABLISHMENT LABORATORIES, Post Box No. 320, Kanpur (U.P.).

*Superintendent in*

<i>charge :</i>	Dr. T. S. Subramanian
<i>Interest :</i>	research on tropical deterioration
<i>Organisms :</i>	fungi and bacteria; 925
<i>Maintenance :</i>	in lifeless media
<i>Distribution :</i>	on request

Micro-organisms isolated during studies on deterioration of Service stores.

665 TOPIWALA NATIONAL MEDICAL COLLEGE, Department of Pathology and Bacteriology, Bombay-8.

<i>Professor in charge :</i>	Dr. L. Monterio
<i>Interest :</i>	medical
<i>Organisms :</i>	bacteria; 20
<i>Maintenance :</i>	in lifeless media
<i>Distribution :</i>	on request

666 UNIVERSITY BIOCHEMICAL LABORATORY, University of Madras, Alagappa Chettiar College of Technology, Madras-25.

<i>Director :</i>	Dr. P. S. Sarma
<i>Interest :</i>	research
<i>Organisms :</i>	bacteria, 8; fungi, 14
<i>Maintenance :</i>	in lifeless media
<i>Distribution :</i>	personal favour

667 UNIVERSITY BOTANY LABORATORY, Triplicane, Madras-5.

<i>Director :</i>	Dr. T. S. Sadasivan
<i>Interest :</i>	plant pathological research
<i>Organisms :</i>	fungi; 50
<i>Maintenance :</i>	in lifeless media
<i>Distribution :</i>	on request

668 UNIVERSITY DEPARTMENT OF BIOCHEMISTRY, Nagpur (M.P.).

<i>Professor in charge :</i>	Dr. M. C. Nath
<i>Interest :</i>	research
<i>Organisms :</i>	bacteria, fungi, yeasts; 40
<i>Maintenance :</i>	in lifeless media

- 669 VACCINE INSTITUTE, Belgaum (Bombay State).  
*Director :* Dr. R. S. Rao  
*Interests :* medical and research  
*Organisms :* animal viruses (vaccine virus); 2  
*Maintenance :* in embryonated eggs and in  
 animals  
*Distribution :* on request (for a fee)
- 670 VETERINARY COLLEGE, Pathology Laboratory, Hissar,  
 Punjab (I).  
*Officer-in-charge :* Principal  
*Interest :* veterinary  
*Organisms :* bacteria; 10  
*Maintenance :* in lifeless media
- 671 VETERINARY RESEARCH INSTITUTE OF INDIA, Pathology  
 and Bacteriology Division, Mukteswar-Kumaun (U.P.).  
*Director :* Dr. S. Dutta  
*Head of the Division  
 of Pathology and  
 Bacteriology :* M. R. Dhanda  
*Interests :* veterinary and research  
*Organisms :* bacteria, animal viruses and pro-  
 tozoa; 90  
*Maintenance :* in lifeless media, embryonated  
 eggs, animals and freeze-dried  
*Distribution :* on request to scientists; others  
 (for a fee)
- 672 VETERINARY SCIENCE AND ANIMAL HUSBANDRY  
 COLLEGE, Department of Pathology, Mathura (U.P.).  
*Principal :* P. G. Pande  
*Interest :* training in veterinary bacteriology  
*Organisms :* bacteria; 20  
*Maintenance :* in nutrient media and in the  
 refrigerator
- 673 WALCHANDNAGAR DISTILLERY, Construction House,  
 Ballard Estate, Fort, Bombay.  
*Director :* C. Subramaniam  
*Interest :* industrial  
*Organisms :* yeasts  
*Maintenance :* in lifeless media  
*Distribution :* on request



## LIST OF SPECIES

The numbers opposite each species indicate the code numbers of the collections maintaining it. For a numerical list of code numbers, see page 1

### ALGAE AND PROTOZOA

ANABAENA	NAVICULA
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A. sp., 647	N. sp., 647
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C. sp., 647	O. sp., 647
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CHLORELLA	PHACUS
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D. sp., 647	S. sp., 58
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E. sp., 647	S. sp., 647
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G. sp., 647	T. sp., 647
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H. sp., 647	

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A. sp., 618	type II, 634
ACTINOMYCES	type IV, 634
A. farcinicus, 612	
A. spp., 642, 645, 664	

AEROBACTOR—Continued

*A. cloacae* (*Bacterium cloacae*),  
634

*A. sp.*, 634

ALKALIGENES

*A. faecalis* (*Bacterium faecalis*  
alkaligenes, *Vibrio alkali-*  
*genes*), 605, 615

*A. viscosus*, 634

AZOTOBACTER

*A. agile*, 642

*A. chroococcum*, 642

*A. indicum*, 642

BACILLUS

*B. anthracis*, 604, 605, 610, 643,  
665, 670, 671, 672

other strains :

virulent strain, 612

vaccine strain, 612

P. I, 643

P. II, 643

local strain, 643

*B. alkalescens* see *Shigella alka-*  
*lescens*

*B. anthroides*, 605

*B. brevis*, 634

*B. cadaveris*, 645

*B. cereus*, 634, 635, 645

var. *albolactis*, 634

var. *mycoides*, 634, 645

*B. coagulans*, 634

*B. cylindricus*, 634

*B. kaustophilus*, 634

*B. lactis-niger* see *B. subtilis*  
var. *niger*

*B. lentus*, 634

*B. macerans*, 664

*B. megatherium*, 634, 635, 645

*B. mesentericus*, 616, 664

*B. mycoides*, 616

*B. niger* see *B. subtilis* var. *niger*

*B. solanacearum* see *Pseudomo-*  
*nas solanacearum*

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*B. sphaericus*, 634

*B. stearothermophilus*, 634

*B. subtilis*, 605, 609, 610, 615, 616,  
623, 626, 632, 634, 635, 640,  
642, 664, 665, 671, 672

var. *niger*, 634, 664

*B. sp.*, 618, 645

BACTERIUM

*B. mono-cytogenes* see *Listeria*  
*mono-cytogenes*

*B. pneumoniae* see *Klebsiella*  
*pneumoniae*

*B. sp.*, 645, 657

BRUCELLA

*B. abortus*, 605, 611, 612, 632, 640,  
659, 671

*B. melitensis*, 605, 611, 620, 632,  
640, 670, 671

*B. suis*, 605, 612, 671

*B. sp.*, 672

CHLOROBIMUM

*C. limicola*, 645

*C. thiosulphatophilum*, 645

CHROMATIUM

*C. strain. 0*, 645

*C. sp.*, 645

CHROMOBACTERIUM

*C. prodigiosum* see *Serratia*  
*marcescens*

*C. sp.*, 618

CLOSTRIDIUM

*C. acetobutylicum* see *Cl. aceto-*  
*nigenum*

*C. acetonigenum* (*Cl. acetobuty-*  
*licum*), 636

*C. aerofœtidum*, 671

*C. bifermentans*, 671

*C. botulinum*, 605, 611, 612, 659,  
671

*C. chauvoei* (*Clostridium fœseri*),  
612, 643, 671

*C. histolyticum*, 611, 659, 671

### CLOSTRIDIUM—Continued

- C. oedematiens* (*Clostridium nevyi*), 605, 611, 612, 622, 643, 671
- C. perfringens* (*Cl. welchii*), 605, 611, 632, 643, 659, 671
- type A, 612
- type B, (Lamb-dysentery bacillus), 612
- type C, (*Cl. paludis*), 612
- type D, (*Cl. ovitoxicum*), 612
- other strains :
- S.R.12, 645, 666
- B.W.21, 645
- C. roseum*, 616, 645
- C. septicum*, 605, 612, 632, 643, 659, 671
- other strains :
- P III, 645
- C. sporogenes*, 605, 654, 659, 671
- C. tertium*, 671
- C. tetani*, 671
- C. tetanomorphum*, 671
- C. welchii* see *Clostridium perfringens*
- C. sp.*, 634

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- C. acnes*, 640
- var. *ponsonley*, 620
- C. coryzae-segmentosum*, 620
- C. diphtheriae*, 604, 610, 623, 632, 640, 641-A
- var. *gravis*, 605
- var. *intermedius*, 605, 659, 665
- var. *mitis*, 605, 659
- Park-Williams, 605, 609, 620
- C. equi*, 671
- C. hofmannii* see *Corynebacterium pseudodiphthericum*
- C. ovis* (*Corynebacterium pseudo tuberculosis*), 670, 671
- Rodentium strain, 671
- C. pseudodiphthericum* (*C. hofmannii*), 605, 610, 659

### CORYNEBACTERIUM—Continued

- C. pyogenes*, 612, 671
- C. xerosis* (*C. xerose*), 605, 620
- C. sp.*, 634, 672

### CYTOPHAGA

- C. sp.*, 664

### DESULPHOVIBRIO

- D. sulphuricans*, 645
- D. sulphuricans*, Kona, 645
- D. sulphurgenii*, 645
- D. sp.*, 645

### DIPLOCOCCUS

- D. pneumoniae* (*Streptococcus pneumoniae*), 611, 612, 623, 641-A, 659
- type I, 605, 620
- type II, 605, 620
- type III, 605, 620
- type IV, 620

### EBERTHELLA

- E. typhosa* see *Salmonella typhi*

### ESCHERICHIA

- E. coli* (*Bacterium coli*), 605, 609, 610, 612, 616, 623, 640, 641-A, 642, 645, 655, 664, 665, 666, 670, 671, 672
- type I, 634
- type II, 634
- irregular, 634
- var. *acidi-lactici*, 605, 620
- var. *commune*, 620
- var. *communior*, 632, 659
- var. *communis*, 605, 615, 620, 659
- var. *mutabilis*, 659
- var. *neapolitana* (*B. coli*, var. *neapolitanum*), 605, 659
- other types :
- mutant C, 181, 626, 655
- aberdeen B, 605
- coscoroba, 605
- immobilis, 605



ESCHERICHIA—Continued

- E. freundii* (*B. freundii*), 634  
*E. intermedium* (coliform intermediate)  
type I, 634  
type II, 634  
type IV, 634  
*E. sp.*, 634, 635

ERYSIPELOTHRIX

- E. monocytogenes* see *Listeria monocytogenes*

FLAVOBACTERIUM

- F. sp.*, 618, 664

HAEMOPHILUS

- H. bronchisepticus* (*Brucella bronchiseptica*), 620  
*H. influenzae*, 620, 640  
*H. pertussis*, 620, 640

KLEBSIELLA

- K. pneumoniae* (*Bacterium pneumoniae*); (*pneumobacillus* of Friedlanders), 605, 609, 620, 623, 632, 642, 659

LACTOBACILLUS

- L. acidophilus*, 602, 616, 620, 627, 634, 640, 645  
*L. arabinosus* see *L. plantarum*  
*L. brevis*, 634, 645, 646  
*L. bulgaricus*, 602, 620, 634, 636, 655  
*L. casei*, 602, 615, 622, 626, 627, 634, 645, 646, 655, 666  
*L. caucasicus*, 634  
*L. delbrueckii*, 603, 627, 645, 655  
*L. fermenti*, 616, 627, 634, 645, 646, 653, 655  
*L. helveticus*, 616, 634, 645, 653  
*L. lactis*,  
var. *dorner*, 634, 646, 655  
*L. leichmannii*, 603, 615, 626, 634, 646, 655  
*L. lycopersici*, 616, 645

LACTOBACILLUS—Continued

- L. plantarum*, 615, 622, 626, 627, 634, 645, 646, 653, 655, 666  
*L. thermophilus*, 634

LEUCONOSTOC

- L. citrovorum*, 626, 645, 646, 655, 666  
*L. dextranicum*, 645  
*L. mesenteroides*, 616, 622, 627, 645, 646, 653, 655, 666  
*L. paracitrovorum*, 634  
*L. sp.*, 634, 635

LISTERIA

- L. monocytogenes* (*Erysipelotherix monocytogenes*), 620, 671

MALLEOMYCES

(*Pfeifferella*)

- M. mallei*, 671  
*M. pseudomallei*, 671

MICROCOCCUS

- M. aurantiacus*, 634  
*M. caseolyticus*, 634  
*M. citreus* (*Staphylococcus citreus*), 605, 610, 611, 612, 620, 623, 632, 643, 659, 665, 671  
*M. cinnabareus*, 634  
*M. epidermidis* (*Staphylococcus epidermidis*), 634  
*M. flavus*, 634  
*M. pyogenes*  
var. *albus* (*Staphylococcus pyogenes albus*), 605, 611, 612, 620, 623, 626, 632, 634, 643, 655, 659, 666, 671  
*M. pyogenes*  
var. *aureus* (*Staphylococcus pyogenes aureus*), 602, 605, 609, 610, 611, 612, 615, 616, 620, 623, 642, 643, 645, 649, 659, 665, 666, 670, 671

## MICROCOCOCCUS—Continued

other strains :

Oxford, 610

Penicillin assay, 620

*M. roseus* (*Rhodococcus roseus*),  
634, 664

*M. sp.*, 604, 618, 634, 635, 640,  
641-A, 657, 672

### MYCOBACTERIUM

*M. enteritidis* (*Mycobacterium*  
*paratuberculosis*), 643, 670,  
671

*M. paratuberculosis* see *M. en-*  
*teritidis*

*M. phlei*, 642, 671

*M. smegmatis*, 671

*M. stercoris*, 671

*M. tuberculosis*,  
avian type, 615, 620, 671  
bovine type, 605, 615, 620, 643,  
671  
human type, 605, 611, 615, 620,  
632, 665, 671

other types :

Vole, 671

H 3 7 R V, 602, 615

S.C.F., 659

from sputum, 659

from ascitic fluid, 659

from urine, 659

from pus, 659

untyped, 623, 632, 635, 641-A,  
670, 672

### NEISSERIA

*N. catarrhalis*, 620, 623

*N. gonorrhoeae*, 605, 620, 640

*N. meningitidis*, 605, 640

type I, 620

type II.G, 620

type III, 620

type VI.G, 620

## PASTEURELLA

*P. pestis*, 610, 611, 632, 659

*P. pseudotuberculosis*,

type A.G. II, 620

type B.G. I, 620

type B.G. II, 620

type B.G. III, 620

var. *rodentium*, 612

*P. septica* (*Pasteurella multo-*  
*cida*), 671

strain, *aviseptica*, 612, 620, 643

strain, *boviseptica*, 620, 643

strain, *bubaliseptica*, 643

strain, *oviseptica*, 612

*P. sp.*, 672

### PARACOLON GROUP

(*PARACOLOBACTRUM*)

*P. aerogenoides*, 632

*P. coliforme*, 632

*P. intermedium*, 632

other types :

*B. asiaticus*, 620

*B. paracolon*, 605

*P. sp.*, 632

### PLEUROPNEUMONIA GROUP

*Asterococcus mycoides* :

bovine strain 671;

ovine strain, 671

### PROPIONIBACTERIUM

*P. shermanii*, 616

*P. thoenii*, 616

### PROTEUS

*P. mirabilis*,

strain H X K, 605, 649, 664

*P. morganii*, 605, 630

*P. vulgaris*, 640, 671

*P. sp.*,

other strains :

XL, 620

XM, 620

X19, 612, 620

OX19, 632, 659, 665

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- HX 19, 615, 620, 632, 632, 649,  
659  
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OX 2, 620, 632, 649, 659, 665  
OXL, 649  
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OXK, 632, 657, 659  
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*P. sp.*, 604, 609, 657

PSEUDOMONAS

- P. aeruginosa* (*P. pyocyanea*),  
610, 611, 615, 620, 623, 632,  
634, 640, 649, 659, 664, 665,  
671  
*P. oxaliticus*, 645  
*P. putrefaciens*, 634  
*P. pyocyanea* see *Pseudomonas*  
*aeruginosa*  
*P. solanacearum* (*Bacillus sola-*  
*nacearum*), 634  
*P. sp.*, 618, 635, 657

RHIZOBIUM

- R. japonicum*, 645  
*R. leguminosarum*, 629-A, 645  
*R. lupini*, 645  
*R. meliloti*, 645  
*R. phaseoli*, 645  
*R. trifolii*, 645  
other strains :  
*R. sp.*, isolated from legu-  
minous plants; 8 strains,  
642  
*R. sp.*, isolated from clover;  
8 strains, 613  
*R. sp.*, 624, 645

SALMONELLA

- S. abortusequi*, 605, 612, 632, 671  
*S. aertrycke* see *S. typhimurium*  
*S. anatis*, 612, 671  
*S. choleraesuis*, 671  
var. *kunzendorf*, 605, 671  
*S. columbensis* (*B. columbense*),  
620

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- S. enteritidis*, 611, 612, 620, 632  
var. *chaco*, 605  
var. *gartner*, 605, 671  
*S. gallinarum*, 612, 671  
*S. hirschfeldii* see *S. paratyphi-C*  
*S. morbificans*, 671  
*S. paratyphi-A* (*Salmonella pa-*  
*ratyphi*), 602, 605, 610, 611,  
615, 620, 623, 632, 640, 641-A,  
649, 659, 665, 671  
var. *durazzo*, 605  
others :  
local isolation; 150 strains,  
659  
isolation from other parts  
of the world; 50 strains,  
659  
*S. paratyphi-B* (*Salmonella*  
*schottmuelleri*), 602, 605,  
610, 611, 615, 620, 623, 632,  
640, 641-A, 649, 659, 665, var.  
*java*, 605  
*S. paratyphi-C*. (*Salmonella*  
*hirschfeldii*), 605, 611, 620,  
632, 640, 649  
*S. typhi* (*Salmonella typhosa*)  
602, 608, 610, 611, 615, 623,  
640, 641-A, 642, 649, 653, 659  
other types:  
H., 665  
O., 665  
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659  
O. 901, 605, 615, 620, 632, 649,  
659  
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Rideal Walker, 632



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- 39. Rostock, 605
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- 47. Typhi VI (pure), 605
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- 49. Virchow, 605, 632
- 50. Worthington, 605
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- S. lutea*, 664
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- S. indica* (*Chromobacterium indicum*), 634
- var. *rubrum*, 664
- S. marcescens* (*Bacillus prodigiosus* or *Chromobacterium prodigiosum*), 605, 620, 640, 659, 664

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- S. alkalescens* (*Bacillus alkalescens*), 605
- S. boydii*
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  - type 2 (P 288), 605, 620, 632
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type 2a (Andrews & Inman V),  
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620

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*S. paradysenteriae* see *S. boydii*  
and *S. flexneri*

*S. shigae* see *S. dysenteriae*  
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*S. shigae* see *S. dysenteriae*  
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8 to 15

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17 to 19

22 to 47

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*Str. agalactiae*, 612, 634, 643, 671

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*Str. dysgalactiae*, 612, 634

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*Str. liquefaciens*, 616, 634

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other species:

*S. cremoris*, 634

*S. erysipelatis*, 620

*S. faecalis*, 615, 616, 620, 627, 634,  
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*S. paracitrovorus*, 616

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*S. thermophilus*, 634

*S. uberis*, 634

*S. viridans*, 605, 620, 623, 659

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*V. alkaligenes* see *Alkaligenes faecalis*

*V. cholerae* (*Vibrio comma*),  
602, 608, 610, 611, 620\*, 623,  
640, 642, 663, 665

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649, 659

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*V.c.* Ogawa, 605, 615\*, 620\*, 632,  
649, 659

*V. el Tor*, 615\*, 620\*

*V. metchnikovi*, 620

*V. sp.*, 604, 618, 635, 645

## \* List of strains given below :

### *Vibrio* and *Vibrio cholerae* strains in Collection No. 615

1. <i>Vibrio el Tor</i> B.1	32. <i>V.c.</i> Ogawa 560
2. " " " D.G.24	33. " 564
3. " " " 34.D.B.	34. " 49514
4. <i>V.c.</i> Inaba 52	35. " 59
5. " 74	36. " 60
6. " 113	37. " 61
7. " 119	38. " 368
8. " 123	39. " 378
9. " 132	40. " 425
10. " 194A	41. " 556
11. " 539	42. " 558
12. " 541	43. " 586
13. " 548	44. <i>V.c.</i> Hikojima
14. " 559	520
15. " 569B	45. <i>V.c.</i> Rough M.L.15
16. " 614	46. " 569 B
17. " 49514	47. " 49515
18. " 49524	48. Water <i>Vibrio</i> Kimboghath
19. " S12	49. " Tank
20. " S8	50. " Kahl
21. " S5	51. " N.A.G. 1
22. " 375	52. " " 2
23. " 384	53. " " 3
24. " 393	54. " " 4
25. " 399	55. " " 5
26. " 420	56. " " 6
27. " 502	57. " " 7
28. <i>V.c.</i> Ogawa 52	58. " " 8
29. " 123	59. " " 9
30. " 132	60. " " 10
31. " 558	

### *Vibrio* and *Vibrio cholerae* strains in Collection No. 620

1. V.N.32/124 G.II	17. V.T.M.C.H. 367/3
2. V.N.32/123 G.III	18. V.P.I.S. 367
3. V.N.32/109 G.IV	19. V.L. 9/36
4. <i>V. el Tor</i> D.19 G.V.	20. V.L. 3/36
5. R. Rangoon Rough	21. V.L. 1/36
6. V. 1612	22. V.L.I. 10/5
7. V.T.M.C.H. 630/3/T	23. V.P.I.S. 984
8. V.T.M.C.H. 1123/2	24. V. W. Kohat original
9. V.T.M.C.H. 1805/1	25. V.C.T.M. 2898
10. V.T.M.C.H. 543/1	26. V.C.T.M. 2943
11. V.T.M.C.H. 353/3	27. V.C.T.M. 5780
12. V.T.M.C.H. 627/29/2	28. V. W. Tank I.A. (2074 D)
13. V.T.M.C.H. 627/2	29. V. W. Tank 4 B
14. V.T.M.C.H. 1158/1	30. <i>V. el Tor</i> Doornbos
15. V.T.M.C.H. 790/6	31. <i>E. el Tor</i> D.G. 18
16. V.T.M.C.H. 833/2/1	32. <i>E. el Tor</i> D.G. 25



# XANTHOMONAS

*X. cassiae*, 642

*X. citri*, 642

# XANTHOMONAS—Continued

*X. desmodii-gangetici*, 642

*X. sp.*, 624

*Vibrio* and *Vibrio cholerae* strains in Collection No. 620—continued

- |                                 |                        |
|---------------------------------|------------------------|
| 33. <i>E. el Tor</i> D.G. 26    | 94. V.Ch.9466          |
| 34. V. W. Band                  | 95. V.Ch.232           |
| 35. V. W. Breweries (Kasauli)   | 96. V.Ch.241           |
| 36. V. W. Kimboghat             | 97. V.Ch.246           |
| 37. V. W. Nawa                  | 98. V.Ch.270           |
| 38. V. <i>el Tor</i> 34-D-18    | 99. V.Ch.227           |
| 39. V. <i>el Tor</i> 34-D-13    | 100. V.Ch.265          |
| 40. V. <i>el Tor</i> D.G. 17    | 101. V.Ch.269          |
| 41. V. <i>el Tor</i> D.G. 24    | 102. V.Ch.292          |
| 42. V.W./1800/1                 | 103. V.Ch.481770       |
| 43. V.M./W/495/1                | 104. V.Ch.481771       |
| 44. V.M./W/k28T                 | 105. V.Ch.481772       |
| 45. V.M./W/211                  | 106. V.Ch.481773       |
| 46. V.M./W/136T                 | 107. V.Ch.481774       |
| 47. V.M./W/139T                 | 108. V.Ch.481775       |
| 48. V.M./W/142                  | 109. V.Ch.481444       |
| 49. V.W./880 Linton             | 110. V.Ch.481445       |
| 50. V.M./W/1500/1               | 111. V.Ch.481453       |
| 51. V.M./W/1686/1               | 112. V.Ch.481482       |
| 52. V.M./W/160                  | 113. V.Ch.481581       |
| 53. V.M./W/491/1                | 114. V.Ch.481582       |
| 54. V.M./W/166                  | 115. N.I.H.35          |
| 55. V.B./W/488/3                | 116. N.I.H.35B         |
| 56. V.B./W/104                  | 117. N.I.H.35A3        |
| 57. V.B./W/499/1                | 118. N.I.H.35K         |
| 58. V.Ch.Khulna I               | 119. N.I.H.41 Smooth   |
| 59. V.Ch.2812                   | 120. N.I.H.41 Opaque B |
| 60. V.Ch.194/A                  | 121. N.I.H.41B         |
| 61. V.Ch.191/A                  | 122. N.I.H.389         |
| 62. V.Ch.M.L.66                 | 123. V.I.Morain        |
| 63. V.Ch.242/A                  | 124. V.2.Farana        |
| 64. V.Ch.2856/L                 | 125. V.3.Suez          |
| 65. V.Ch.162/H                  | 126. V.4.Suez          |
| 66. V. Ch.Ogawa T               | 127. Port-Said 163     |
| 67. V.Ch.569 B                  | 128. Port-Said 285     |
| 68. V.Ch.11                     | 129. Port-Said 289     |
| 69. V.Ch.C.L.91                 | 130. Port-Said 291     |
| 70. V.Ch.C.L.93                 | 131. Port-Said 296     |
| 71. V.Ch.C.L.94                 | 132. Tintah            |
| 72. V.Ch.9172                   | 133. 8946              |
| 73. V.Ch.9175                   | 134. 8990              |
| 74. V.Ch.9372                   | 135. 10420             |
| 75. V.Ch.8258                   | 136. 10440             |
| 76. V.Ch.9013                   | 137. 12976             |
| 77. V.Ch.569B Rough             | 138. 95656             |
| 78. V.Ch. Inaba R/D             | 139. Ismallia 13       |
| 79. V.Ch.368/213A               | 140. E Z 5 C.F.        |
| 80. V.Ch.569 Smooth             | 141. Eltor B.1         |
| 81. V.Ch.M.L.15 Smooth          | 142. Eltor B.2         |
| 82. V.Ch.270/215 A              | 143. B.4               |
| 83. V.Ch.534/380 A              | 144. B.3               |
| 84. V.Ch.M.L. 4 Rough           | 145. Eltor 4           |
| 85. V.Ch.370/215A Ogawa variant | 146. Makassar 676      |
| 86. V.Ch.M.L. 15 Rough          | 147. Makassar 794      |
| 87. V.Ch.M.14.D                 | 148. Indi 653          |
| 88. V.Ch.M.L.66 Inaba variant   | 149. V.b. 610          |
| 89. V.Ch.727                    | 150. Indo-China 1927   |
| 90. V.Ch.443                    | 151. Saigon 1046       |
| 91. V.Ch.443                    | 152. Hanoi             |
| 92. V.Ch.416                    | 153. Shanghai 10       |
| 93. V.Ch.442                    |                        |

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- A. butleri*, (+) & (—), 633
- A. coerulea*, 633
- A. cylindrospora*, 633
- A. glauca*, 600 (+) & (—), 633
- A. spinosa*, 633
- A. sp.*, 656

### ACHLYA

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### ACREMONIUM

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### ACROSTALAGMUS

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- A. tomato*, 633
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Printed at  
THE UNITED PRESS  
Old Secretariat, Delhi

PRICE  
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